BECTON
DICKINSON

SERO-FUGE®

2000 Series Centrifuges

Operator's Manual

OPERATORS MNL.
SERO 2000
R/P

REF./RIF./ BEST.NR.:
42035101
QTY. 1

BECTON
DICKINSON

SERO-FUGE®

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CAUTION

Potential hazards exist. Read and understand this manual thoroughly before using equipment. If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.

DANGER
Explosion Hazard

Do not use this equipment in the presence of flammable anesthetics, where explosive materials are used, or with materials which chemically interact vigorously.

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SECTION 1 – INTRODUCTION

This manual provides operating instructions for the Clay Adams® 2000 Series Centrifuges – the single speed *2001* and the two speed *2002*.

Symbol Definitions

The following is an explanation of the symbols found throughout the manual and located on the centrifuge units.

CAUTION – Risk of Personal Injury
This symbol is used in both Caution and Warning messages to attract the user's attention to potential hazards when using the centrifuge.

CAUTION – Risk of Electrical Shock
This symbol is shown on the instrument to warn the user of possible electrical hazards.

DANGER – Explosion Hazard
Do not use in the presence of flammable anesthetics where explosive materials are used or with materials which chemically interact vigorously.

Notes, Cautions, and Warnings

The following is an explanation of Note, Caution, and Warning boxes contained throughout this manual.

NOTE

Important information about system use worthy of special attention.

CAUTION

Information on an activity that potentially could cause damage to the system.

WARNING

Information on an activity which potentially could cause injury to the user.

SECTION 2 – INTENDED USE

Overview

SERO-FUGE® 2001 and SERO-FUGE 2002 Centrifuges are compact, highly versatile machines for use in blood banks and clinical laboratories. They are specifically designed to simplify many basic test procedures, such as blood typing, manual cell washing, cross-matching, genotyping, Coombs testing, and Anti-Rh titers.

Both models feature a lid safety latch that performs the following functions:

- Prevents the unit from spinning while the lid is open
- Automatically locks the lid when the lid is closed
- Prevents lid opening until the rotor has stopped spinning

Both models allow for complete manual control by the operator over the time of the spin cycle.

SERO-FUGE® 2001

The SERO-FUGE® 2001 is a single speed machine designed to minimize centrifugation time in the laboratory. It incorporates the following features:

- A safety lid lock that automatically locks when the lid is closed
- An end of cycle alarm to inform the operator that the cycle is completed
- A solid state digital timer providing precise cycle times

- A dynamic brake to shorten the rotor deceleration time after a completed cycle.

SERO-FUGE® 2002

The SERO-FUGE 2002 is a dual speed machine. The low speed setting is useful when reagent manufacturers recommend low speed spins. This unit incorporates the same features as the SERO-FUGE 2001. This unit is not available for use at 230 VAC.

Use of the SERO-FUGE® 2000 Series Centrifuges

SERO-FUGE 2000 Series Centrifuges have been designed to facilitate blood testing procedures involving centrifugation, incubation, and cell washing, with a minimum of tube handling. Many procedures can be performed entirely without removing tubes from the centrifuge rotor, thus reducing the possibility of errors in transferring tubes. Tubes can be centrifuged and incubated without removal from the rotor.

The following notes on use of the SERO-FUGE 2000 Series Centrifuges in the more common test procedures are intended to set practical guidelines for the technologist. Many standard texts and handbooks provide recommendations regarding time periods for various centrifugations.

AGGLUTINATION TESTS

Whenever possible, it is important that the anti–serum manufacturer's instructions be followed on recommended time periods for centrifuging cells with their sera in the 2000 Series Centrifuges.

> **NOTE**
>
> It is recommended that the optimum centrifugation period be determined by controlled reactions using known cells. This method is the easiest way to determine the time necessary to produce the desired tightness of agglutination.

INCUBATION

Many blood testing procedures require incubation at 37°C before and after centrifugation. The SERO-FUGE® 2000 Series Centrifuge rotors

have been designated to allow the incubation of these reactions without removing the tubes from the rotor. You may lower the entire rotor into a water bath for the test being performed. When the rotor is removed, water will drain through the perforations in its base. Allow the water to drain completely prior to re-centrifugation or transporting the tubes.

CELL WASHING

The 12-place Centrifuge Rotor, Catalog No. 420545, may be conveniently used for many tests that require single or multiple blood cell washings. Because the tubes are maintained at an angle of 45° during centrifugation, the centrifuge is highly efficient in washing cells. The cells are deposited quickly after sliding down the angled tubes.

After the button is formed, the supernatant solution can be readily poured off all tubes simultaneously. This is done by removing the rotor from the drive spindle immediately after it stops spinning, placing the retainer ring around the tubes, and inverting the rotor.

SECTION 3 – OPERATING PROCEDURES

The following paragraphs describe Installation, Load Balancing, Controls and Indicators, and Operation of the SERO-FUGE 2000 Series Centrifuges.

WARNING

"UNIVERSAL PRECAUTIONS"[1] SHOULD BE FOLLOWED IN HANDLING ALL ITEMS CONTAMINATED WITH BLOOD OR OTHER BODY FLUIDS.

[1]Recommendations for Prevention of HIV Transmission in Health Care Settings. MMWR 1987; 36 (Supplement #2S): (Inclusive Page Numbers).

Installation

SITE PREPARATION

Place the centrifuge on a clean level surface. The user should mark a boundary no less than 300mm (11.8") around the centrifuge and ensure that no person or any hazardous materials are within the boundary while the centrifuge is operating. The centrifuge should be located so that the ambient air can readily circulate around the unit.

The SERO-FUGE® 2000 Series Centrifuge is a table top unit and need not be secured to the table.

ROTORS

The SERO-FUGE 2000 Series Centrifuges are shipped fully assembled and ready for use. Before operating the machine, the desired rotor must be installed and locked into position.

A 12-place rotor is shipped with the unit. This rotor is interchangeable with 8 and 6-place rotors which are also available for use with the SERO-FUGE 2000 Series Centrifuges. All rotors are installed in an identical manner by rotating them on the drive spindle until the rotor drops over the pin and locks into place.

NOTE

Inspect all rotors regularly for integrity and discontinue use if cracks or other signs of damage are visible.

LOAD BALANCING

For smooth centrifuge operation and extended equipment life, it is essential that loads be balanced as equally as possible. Use of a tube balance is recommended for best results.

CAUTION

Before operating any centrifuge, the load must be balanced. Never attempt to balance the unit by adding weights, mercury, or shot to the bottom of a tube.

APPLYING POWER

To apply power to the centrifuge, simply plug the unit into the proper AC receptacle. See the section below – Power Specifications – for power requirements and precautions.

CAUTION

It is recommended that the centrifuge be wired to a remote emergency cutoff switch so power can be disconnected from outside the room.

Rotors and Accessories

ROTORS

SERO-FUGE® 2000 Series Centrifuges can use three types of rotors. They are as follows:

12-Place Rotor, Catalog No. 420545

The 12-place rotor can accommodate the following tubes:

- 75 mm x 13 mm without rubber stopper
- 75 mm x 10 mm (3" x 3/8") Sero-Tubes
- 75 mm x 12 mm (3" x 1/2") Kahn Tubes
- (6) 75 mm x 13 mm tubes with rubber stopper

Any number of test tubes (except one, five, seven or eleven) can be centrifuged without unbalancing the rotor, provided they are placed symmetrically about the spindle. Tubes swing out to an angle of 45° when the rotor is spinning and return to a vertical position at rest. A retaining ring is provided in the rotor to hold the tubes firmly in place. This enables the rotor to be inverted to pour off supernatant liquid.

8-Place Rotor, Catalog No. 420224

The 8-place rotor can accommodate the following tubes:

- 75 mm x 10 mm (3" x 3/8") Sero-Tubes
- 75 mm x 12 mm (3" x 1/2") Kahn Tubes
- 64 mm x 10.25 mm tubes with rubber stopper
- 82 mm x 10.25 mm tubes with rubber stopper
- 103 mm x 10.25 mm tubes with rubber stopper
- 75 mm x 13 mm tubes with or without rubber stopper
- 75 mm x 13 mm Vacutainer® Blood Collection Tubes with Hemogard® closures
- 100 mm x 13 mm tubes with or without rubber stopper
- 100 mm x 13 mm Vacutainer® Blood Collection Tubes with Hemogard® Closures

The rotor has a fixed angle of 45°.

6-Place Rotor, Catalog No. 420526

The 6-place rotor can accommodate the following tubes:

- 100 mm x 13 mm glass with rubber stopper
- 103 mm x 10.25 mm glass with rubber stopper
- 100 mm x 16 mm glass with rubber stopper
- 100 mm x 16 mm Vacutainer® Blood Collection Tubes with rubber stopper (Serum Separation Tubes)

The rotor has a fixed angle of 45°.

WARNING

USE ONLY ROTORS MANUFACTURED OR SUPPLIED BY CLAY ADAMS® SPECIFICALLY FOR USE IN THE SERO-FUGE® 2000 SERIES CENTRIFUGES. USE OF OTHER ROTORS MAY BE HAZARDOUS.

NOTE

Each of the SERO-FUGE rotors is rated for safe operation at speeds up to 3600 RPM with the tubes fully loaded with fluid not exceeding a density of 1.10 g/cc (i.e., whole blood).

ACCESSORIES

Line Cords

North American Line Cord (NEMA 5–15)
Catalog No. 42432612

Commonly used in the United States, Canada, Mexico, Central America, Colombia, Venezuela, Ecuador, and elsewhere.

British Standard (BS 1363) with Integral Fuse
Catalog No. 42251015

Commonly used in the United Kingdom, Ireland, Hong Kong, Malaysia, Singapore, and elsewhere.

Continental European "Schuko" (CEE 7/7)
Catalog No. 42251012

Commonly used in Germany, Austria, The Netherlands, Sweden, Norway, Finland, and elsewhere. May be plugged into French and Belgian receptacles.

FUSES

115VAC SERO-FUGE® 2001/2002 REPLACEMENT FUSES
Catalog No. 42035102

UL listed and CSA certified 5mm x 20mm, Type T, time lag–fuses rated at 4 amps, 125VAC.

230VAC SERO-FUGE® 2001 Replacement Fuses
Catalog No. 42035103

SEMKO, BSI, or VDE approved 5mm x 20mm, Type T, time–lag fuses rated at 3 amps, 250VAC.

MANUALS

SERO-FUGE® 2000 Series Centrifuge Operator's Manual
Catalog No. 42035101

Power Requirements

SERO-FUGE® 2001 (115 VAC,50–60 Hz) CATALOG No. 420351

Connect to a 3-wire grounded AC receptacle rated at 115 volts, 50–60 Hz. The centrifuge will operate within a voltage range of 103 to 132 VAC.

SERO-FUGE® 2001 (230 VAC, 50–60 Hz) CATALOG No 420354

Connect to a 3-wire grounded AC receptacle rated at 230 volts, 60 Hz. The centrifuge will operate within a voltage range of 198 to 264 VAC.

SERO-FUGE® 2002 (115 VAC, 50–60 Hz) CATALOG No. 420352

Connect to a 3-wire grounded AC receptacle rated at 115 volts, either 50 or 60 Hz. The centrifuge will operate within a voltage range of 103 to 132 VAC.

Performance and Specifications

SPEEDS*

Under full load: 12-, 8-, or 6-place rotor:

	Speed at the following Electrical Specifications:			
MODEL	103 - 132 VAC 60 Hz	103 - 132 VAC 50 Hz	198 - 264 VAC 60 Hz	198 - 264 VAC 50 Hz
SERO-FUGE 2001	3100 - 3550 rpm	2550 - 2950 rpm	3100 - 3550 rpm	2550 - 2950 rpm
SERO-FUGE 2002 (High Speed)	3100 - 3550 rpm	2550 - 2950 rpm	N/A	N/A
SERO-FUGE 2002 (Low Speed)	2350 - 2450 rpm	2350 - 2450 rpm	N/A	N/A

***Note**: Full load is defined as any SERO-FUGE 2000 Series Centrifuge rotor loaded to capacity with any tube described in the "Rotors and Accessories" section, filled to thier maximum volume with a fluid not exceeding a density of 1.10 g/cc (e.g., whole blood).

115 VAC SERO-FUGE® 2000 CENTRIFUGES

Nominal Line Voltage:	115 VAC
Maximum Line Voltage:	132 VAC *
Minimum Line Voltage:	103 VAC *
Frequency:	50–60 Hz
Single Cycle Motor Inrush Current:	6.5 Amps
Steady State Current (Motor Running):	1.4 Amps
Idle Current (Motor Not Running):	0.05 Amp
Power (Motor Running):	66 Watts
Power (Motor Not Running):	1.5 Watts
Thermal Generation	
Motor Running:	175 BTUs / Hr
Motor Not Running:	5 BTUs / Hr

Motor Braking Time (Rotor Fully Loaded): 30 Sec

***Note**: All specifications are typical with the exception of the maximum and minimum line voltages.

230 VAC SERO-FUGE® 2000 CENTRIFUGES

Nominal Line Voltage:	230 VAC
Maximum Line Voltage:	264 VAC **
Minimum Line Voltage:	198 VAC **
Frequency:	50–60 Hz
Single Cycle Motor Inrush Current (230 VAC, 50 Hz):	4 Amps
Steady State Current (Motor Running) (230 VAC, 50 Hz):	0.7 Amp
Idle Current (Motor Not Running) (230 VAC, 50 Hz):	0.04 Amp
Power (Motor Running) (230 VAC, 50 Hz):	78 Watts
Power (Motor Not Running) (230 VAC, 50 Hz):	3 Watts
Thermal Generation	
Motor Running(230 VAC, 50 Hz):	212 BTUs / Hr
Motor Not Running(230 VAC, 50 Hz):	10 BTUs / Hr
Motor Braking Time (Rotor Fully Loaded):	30 Sec

****Note**: All specifications are typical with the exception of the maximum and minimum line voltages.

TIMER SPECIFICATIONS

Maximum Cycle Time: 99 minutes and 99 seconds
Minimum Cycle Time: 1 second
Timer Accuracy: ± 1 second / 30 minutes

CENTRIFUGE WEIGHTS AND DIMENSIONS

Closed unit, both models:

Width/Length/Height	17" x 13" x 12"
Net Weight	28 lbs

OPERATING CLEARANCE ENVELOPE

Placement of the centrifuge must include a clearance envelope of no less than 300 mm.

ENVIRONMENTAL SPECIFICATIONS

The SERO-FUGE® 2000 Series Centrifuges are designed as follows:

- Indoor Use Only
- Ambient Room Temperature Range of 5°C – 40°C*
- Relative Humidity of 20% – 90%, non-condensing
- Elevations Up to 2000m Above Sea Level
- IEC 664 Pollution Degree Category 1 (No pollution or only dry)
- IEC 664 Installation Category II (Overvoltage Categories)

*Consult Reagent manufacturer's temperature specifications for any given test.

Operating Precautions

In order to obtain properly centrifuged specimens and to prevent damage to the machine, the following basic operating precautions should be carefully observed:

- **Electrical**
  Operate the centrifuge only from an AC power source approved for the particular model.

- **Load Balancing**
  For smooth operation and long service life, it is important that tubes be installed in a balanced array.

- **Timing**
  For accurate results, follow the Reagent manufacturer's recommendations.

Controls and Indicators

Controls and indicators of the SERO-FUGE® 2000 Series Centrifuges are described in the following paragraphs. Figures 1, 2A, and 2B show the SERO-FUGE 2002 Centrifuge which is dual speed; Figure 3 shows the single speed SERO-FUGE 2001 Centrifuge and points-out the differences between the two models.

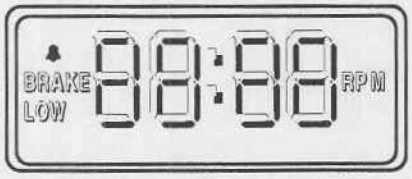
OPERATOR KEYPAD

The Operator Keypad is located on the instrument's front panel. It provides a keyclick sound to confirm the pressing of keys unless disabled by setting the Alarm On/Off control to OFF (See below).

It features the following controls and indicators.

Refer to Figure 1 – The Keypad Display.

❶ Keypad Display



The Keypad Display provides the following two readouts:

Cycle Time

As you enter desired spin cycle time using the keypad, it is displayed in minutes:seconds (mm:ss) format. After the cycle is initiated, the time counts down in seconds until the cycle is completed.

Cycle Time is defined as the time that power is driving the motor. Cycle Time includes the time for the motor to ramp up to speed but does not include ramp–down or braking time.

Digital Tachometer Readout

The Keypad Display shows rotor speed when the operator presses the Tachometer Enable/Disable (❷) button located on the keypad. When pressed, the **RPM** indicator (❸) is illuminated. Speed is displayed in revolutions per minute. Press Tachometer Enable/Disable again to revert back to remaining cycle time.

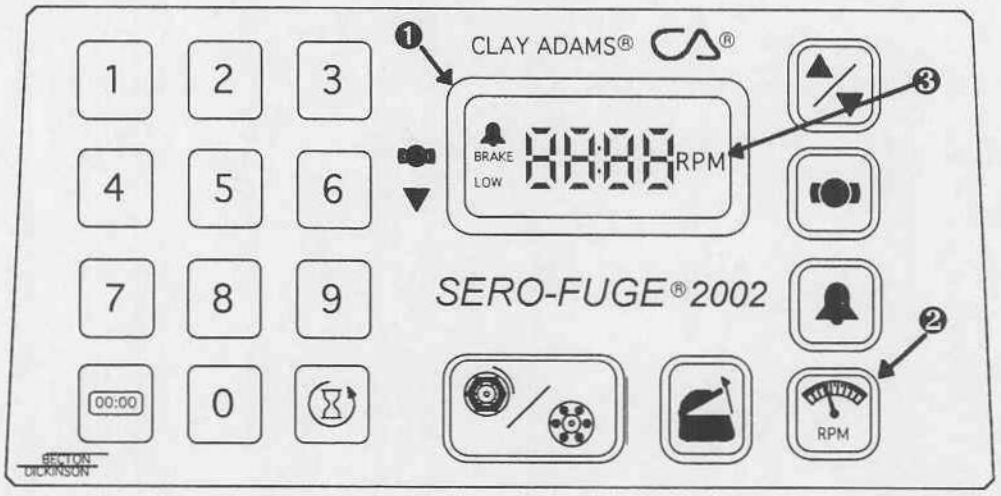
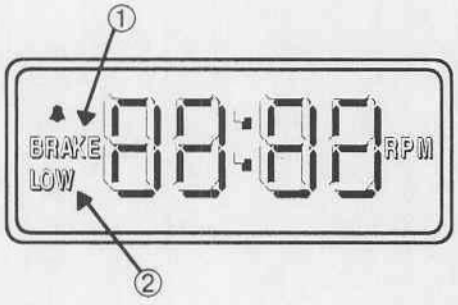


Figure 1 - The Keypad Display



① **Brake Enable Indicator**

The indicator is displayed whenever the brake is enabled.

② **Low Speed Indicator**

The speed indicator is displayed whenever the centrifuge is set to Low speed.

NOTE

The **Speed** indicator is found only on the dual-speed SERO-FUGE 2002 Centrifuge.

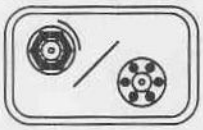
❶ Numeric Keypad

The Numeric Keypad is used to enter desired cycle time. The cycle time can be 0 – 99 minutes, entered in one-second intervals.

❷ Clear Display

Press this key to reset the Keypad Display to zero. This key is functional only when the rotor is not spinning.

❸ Start/Stop Spin Cycle



Press this key once to start a spin cycle. Press this key a second time to prematurely end the spin cycle. The spin cycle will automatically end when the timer reaches zero.

❹ Alarm Enable/Disable

Press this key to disable the End of Cycle Alarm. Enabling the alarm causes an audible indicator to sound alerting you that the cycle has ended.

When the alarm is enabled, the alarm icon is displayed on the keypad display.

❺ Tachometer Enable/Disable

Press this key to display the rotor rpm in the Operator Keypad Display. When the tachometer is disabled, the Cycle Time is displayed.

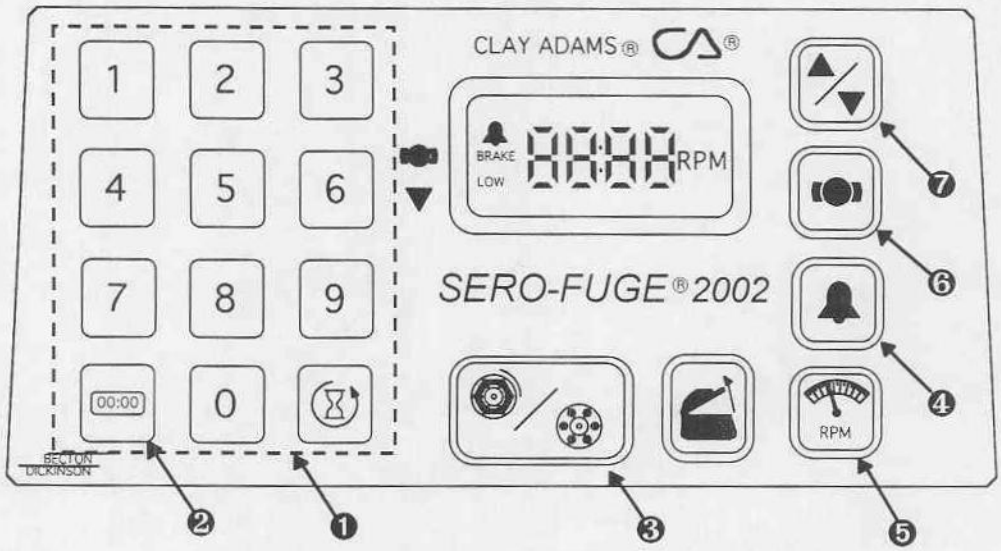


Figure 2A - The Keypad Display

❻ Brake Enable/Disable

This is a brake enable/disable control. With the brake enabled (**On**), the brake is applied to the rotor at the end of the spin cycle or whenever the **Stop** key is pressed. If the operator prefers that the brake not be applied at the end of the spin cycle, or if manually stopped (pressing the **Stop** key), this control is used to disable the braking action.

When the brake is enabled, the brake icon is displayed on the keypad display.

❼ Speed Control

Press this key to toggle the rotor speed of the SERO-FUGE 2002 between low speed and high speed. When the centrifuge is in low speed, the "Low" icon is lit on the keypad display.

NOTE

This key is not available on the single speed SERO-FUGE 2001 Centrifuge.

❶ **Lid Open**

Press this button to open the centrifuge lid.

NOTE

All SERO-FUGE® 2000 Centrifuges prevent the lid from opening until the rotor has stopped spinning.

❷ **Repeat**

Press this key to set the Cycle Time to match the previous run.

NOTE

The centrifuge will not retain the last cycle time when the centrifuge power is turned off.

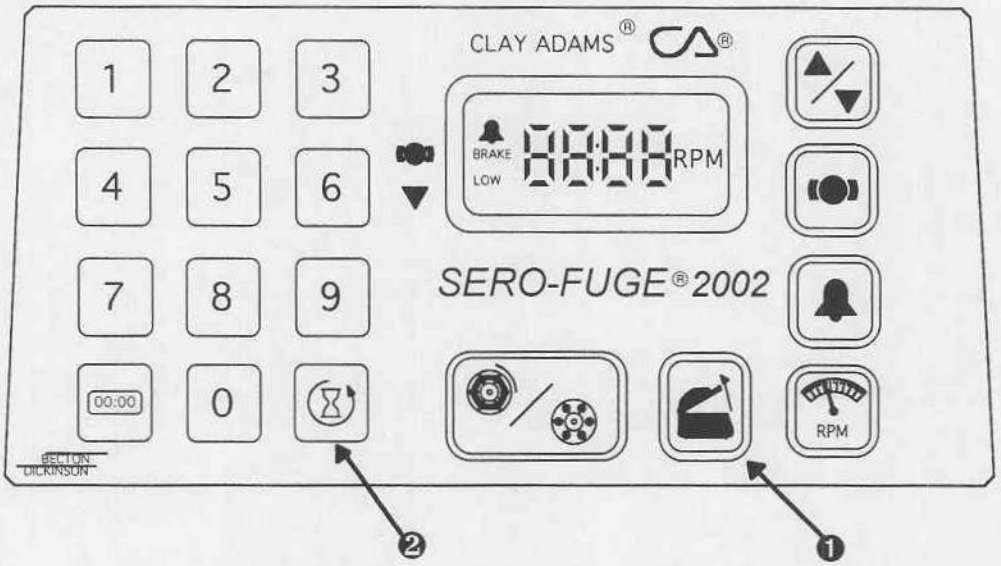


Figure 2B – 2000 Series Controls and Indicators

Figure 3 below shows the SERO-FUGE® 2001 keypad:

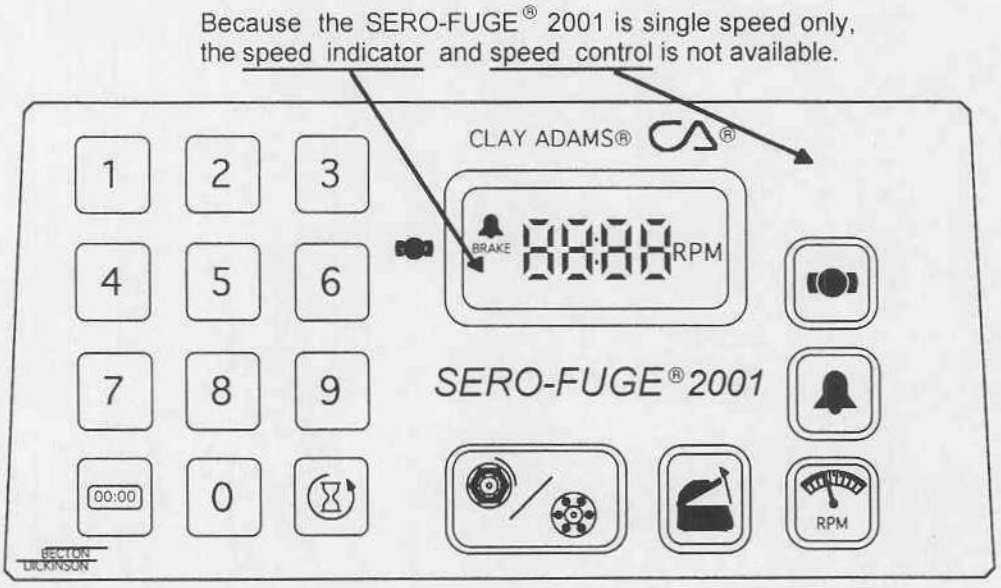


Figure 3 – The SERO-FUGE® 2001 Centrifuge

Speed Verification

The speed of the SERO-FUGE® 2000 Series Centrifuges should be checked with any accurate photo electric tachometer at least twice a year.

A 6, 8, or 12 place rotor may be used to verify the SERO-FUGE speed. The rotor should be loaded to capacity with any of the tubes described in the "Rotors and Accessories" section of this manual. The tubes may be filled to their maximum volume with a fluid not exceeding a density of 1.10 g/cc (e.g., whole blood).

NOTE

Because it is recommended that the centrifuge not be disassembled, mechanical tachometers should never be used for speed verification.

If machine speed(s) is found to be outside specified limits (as stated in this manual), then the AC supply voltage and frequency should be checked with an appropriate power monitoring device. Deviations in line voltage and frequency will affect centrifuge operating speed.

If the source supply is found to be within tolerance, and the centrifuge is operating outside specified speed limits, please contact the nearest Becton Dickinson Primary Care Diagnostics dealer or contact Becton Dickinson Technical Assistance at one of the locations listed in Appendix A.

Cleanliness

Keep the centrifuge clean and dust-free in accordance with the Maintenance and Service instructions found in this manual. Avoid spilling liquids into the centrifuge bowl. See section "Cleaning and Decontamination of Spills" for additional instructions.

Operator Training

SERO-FUGE 2000 Series Centrifuges are electrical instruments designed to prepare specimens for medical evaluations. Use of these instruments for medical evaluation places a responsibility upon administrative personnel for adequate training of operators in safe and proper use.

Administrative personnel should make certain that all operators and technologists receive adequate training before operating the centrifuge. Such training should include thorough working knowledge of the following:

- Centrifuge set-up and power requirements
- Handling and preparation of samples
- Equipment service and maintenance
- Bloodborne Pathogen Training

Hazards

Basic safety precautions must be observed when operating the centrifuge in order to avoid hazards of electrical shock or other physical injury.

Never use SERO-FUGE® 2000 Series Centrifuges where flammable anesthetics, or explosive materials are used, or with materials which chemically interact vigorously.

Breakage of tubes during centrifugation may result in the release of liquid contents into the centrifugation chamber and/or the creation of aerosols. Aerosols may be released from centrifuges not specifically designed for aerosol containment.

To Avoid Electrical Shock:

- Plug the power cord only into a grounded 3-wire receptacle
- Never remove the grounding prong from the power plug
- Always unplug the power cord before attempting any type of servicing

To Avoid Physical Injury:

- Never attempt to operate the centrifuge with the Lid Safety Latch not functioning properly
- Never attempt to open the centrifuge lid while the rotor is spinning

SECTION 4 – MAINTENANCE AND SERVICE

SERO-FUGE® 2000 Series Centrifuges are guaranteed against defective workmanship and materials for a period of one year from date of delivery.

The SERO-FUGE 2000 Series Centrifuges are designed for high reliability and require no periodic maintenance other than occasional cleaning, routine speed verification, and periodic inspection as described below. If service questions ever arise, contact the nearest Becton Dickinson Primary Care Diagnostics dealer. Please refer to Appendix A.

Cleaning and Decontamination of Spills

It is recommended that all interior surfaces of the centrifuge be cleaned periodically with a clean cloth dampened with a 10% bleach solution. The exterior surfaces can also be cleaned occasionally with the same solution.

If tube breakage occurs in the centrifuge, we recommend the following procedure be used to clean the interior surfaces of the centrifuge:

Allow the rotor to come to a complete stop. If blood, body fluids or potentially infectious agents were in the centrifuge, it should be left closed for at least a half hour (30 minutes) to allow fine droplets to settle. The lid should then be opened and the broken glass carefully removed using a hemostat or other similar device and puncture-resistant gloves. Remove the rotor and soak it in a 10% bleach solution for a minimum of fifteen minutes. Rinse the rotor thoroughly with tap water and allow to air dry prior to reuse. Spilled material within the instrument should be absorbed with disposable absorbent material (e.g., paper towels, gauze pads, or tissue-paper wipes) using care to avoid contact with the infectious material. Wipe down the spill surfaces with disposable towels or gauze soaked in a 10% bleach solution so that the surface is "glistening wet." Allow to dry. Repeat as necessary to remove any remaining spilled material[1].

Discard broken glass and soiled cleaning material into the appropriate biohazard waste receptacle.

NOTE

The user has the responsibility for carrying out the appropriate decontamination if hazardous material is spilled on or inside the equipment.

CAUTION

Before using any cleaning or decontamination methods other than those recommended above, users should check with the manufacturer to ensure the proposed method will not damage the equipment.

[1]NCCLS DOCUMENT I17-P (Protection of Laboratory Workers from Instrument Biohazards, Proposed Guideline, September 1991).

Periodic Inspection

The rotors and the centrifuge protective casing should be inspected regularly for integrity. Discontinue use if cracks or other signs of damage are visible.

Fuse Replacement

The power required by the particular SERO-FUGE® 2000 Series Centrifuge determines whether the unit is configured with a single fuse or a pair of fuses. The 115 VAC model contains a single fuse while the 230 VAC version requires two fuses.

The fuse(s) is contained within the power entry module located at the rear of the centrifuge. The power entry module also contains a receptacle for the power cord connection.

Read the following before attempting fuse replacement:

WARNING

To prevent personal injury while replacing fuse(s), ensure power is removed from the unit by unplugging the power cord from the wall receptacle!

WARNING

Always replace the existing fuse with a fuse of equal current and voltage rating.

FUSE REPLACEMENT FOR 115 VAC SERO-FUGE® 2001/2002

For continued protection against risk of fire, fuse replacement for 115VAC SERO-FUGE 2001 and 2002 requires use of only 5mm x 20mm, Type T, time–lag fuses, rated at 4 amps, 125 Volts. Replacement fuses may be ordered from Becton Dickinson Primary Care Diagnostics. See the "Accessories" section of this manual for the appropriate catalog number.

FUSE REPLACEMENT FOR 230 VAC SERO-FUGE® 2001

For continued protection against risk of fire, use only SEMKO, BSI, or VDE approved 5mm x 20mm, Type T, time–lag fuses rated at 3 amps, 250 Volts. Replacement fuses may be ordered from Becton Dickinson. See "Accessories" section of this manual for the appropriate catalog number.

Transportation

Though SERO-FUGE 2000 Series Centrifuges are designed to withstand the rigors of normal laboratory usage, they can be damaged by dropping or by excessive abuse in handling. If the centrifuge must be shipped, package the unit carefully in a strong, shock absorbing container to prevent damage from vibration and impact.

SECTION 5 – SERO-FUGE® 2000 SERIES CENTRIFUGE WARRANTY

Becton Dickinson Primary Care Diagnostics, manufacturer of Clay Adams Brand products, warrants this product to be free of defects in material and workmanship for one (1) year from the date of installation. During such period of time, Becton Dickinson Primary Care Diagnostics agrees to replace or repair any parts which, in its judgment, are found to be defective, provided the instrument has not been subjected to abuse. The warranty stated herein shall extend to the original purchaser and not to any subsequent purchaser of the instrument. In order to validate this warranty, the Warranty Card must be returned to the appropriate service center (see Appendix A) within fifteen (15) days from the date of installation. Becton Dickinson Primary Care Diagnostics shall not be liable for any incidental or consequential damages. Becton Dickinson Primary Care Diagnostics makes no other warranties, expressed or implied, except as stated herein.

CLAY ADAMS® Brand Products

RETAIN FOR YOUR RECORDS

Instrument: _____

Model Number: _____

Serial Number: _____

Distributor's Name: _____

Address: _____

_____

Phone Number: _____

IMPORTANT: Help protect your investment by returning the enclosed warranty card **IMMEDIATELY** for instrument registration!